

REMARKS/DISCUSSION OF ISSUES

Upon entry of the present amendment, claims 24-39 are pending in the present application. Claims 24 and 32 are the independent claims. Claims 24 and 32 have been amended. Reference herein to the Office Action and any rejection is to the Office Action (Final) of November 21, 2003.

Rejections

Claims 31 and 39 were rejected under 35 U.S.C. §112, second paragraph. This rejection is moot in view of the present amendment.

Claims 24-30 and 32-38 were rejected under 35 U.S.C. § 102(e) as being anticipated by Wu (U.S. Patent 6,432,785). Furthermore, claims 24-26 and 32-34 were rejected under 35 U.S.C. § 102(b) in view of *Sakiyami, et al.*

For at least the reasons that follow, it is respectfully submitted that these claims are allowable over the applied art. establishment of a *prima facie* case of anticipation requires that all of the elements of a claim be found in the prior art. It follows that if a single element of a claim is missing from the prior art, a *prima facie* case of anticipation cannot be properly established.

Claim 24 is drawn to a MOS transistor, and claim 32 is drawn to a semiconductor device, and each feature: "...each of said source regions has a source lightly doped region and a source heavily doped drain region, **each of which having an upper portion in contact with the side wall**, wherein an impurity concentration of said source lightly doped region is lower than an impurity concentration of said source heavily

doped region sidewalls and said impurity concentration decreases as a depth from the top surface of the substrate increases, . . . ”

As described in the application as filed, the impurity concentration's distribution featured in claims 24 and 39 more efficiently reduces the short channel effect compared to known devices. Beneficially, the impurity distribution featured in claims 24 and 39 more effectively prevent the decrease in threshold voltage and avoids carrier punch-through. (Kindly refer to page 13, lines 10-17 of the filed application for further details.)

It is respectfully submitted that at least this feature is not disclosed by either *Wu* or *Sakiyami, et al.*

In particular, *Wu* discloses that the regions 30 are in contact with the thermal oxide 18, but clearly lacks that the regions 30 are in contact with the spacers 22. (Kindly refer for example to Figs. 5-7 and column 5, lines 2-24 of *Wu* for support for this assertion.) Additionally, *Wu* lacks the disclosure regarding the decreasing concentration set forth in claims 24 and 32. (Kindly refer to column 6, lines 31-37 of *Wu* for support for this assertion.)

Therefore, because the reference lacks at least the features of independent claims, *Wu* cannot serve to establish a *prima facie* case of anticipation. Thus, claims 24 and 32 and the claims that depend therefrom are allowable over the applied art.

Similarly, the reference to *Sakiyami, et al.* lacks at least the disclosure of the decreasing doping concentration. To wit, the reference to *Sakiyami, et al.* mentions, but does not show, lightly doped drain/source regions, and does not

disclose the impurity concentration distribution featured in claims 24 and 39. (Kindly refer to column 4, lines 24-31 of the reference to *Sakiyami, et al.* for support for this assertion.)

Therefore, because the reference lacks at least the features of independent claims, *Sakiyami, et al.* cannot serve to establish a *prima facie* case of anticipation. Thus, claims 24 and 32 and the claims that depend therefrom are allowable over the applied art.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact William S. Francos, Esq. (Reg. No. 38,456) at (610) 375-3513 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17 or under any other regulation of Title 37 of the Code of Federal Regulations that may be required.



Respectfully submitted on behalf of:
Oki Electric Industry Co., Ltd.

A handwritten signature in black ink, appearing to read "William S. Francos".

William S. Francos, Esq.
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